A taxonomic revision of the Subalpine Warbler *Sylvia cantillans*

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SUMMARY.—Recent research on Subalpine Warbler *Sylvia cantillans* taxonomy is summarised, resulting in the recommendation to split the complex into three different species: Western Subalpine Warbler *S. inornata*, Eastern Subalpine Warbler *S. cantillans* and Moltoni's Warbler *S. subalpina*. One consequence of this is that the name *cantillans* needs to be fixed by the selection of a neotype, and the Franco-Iberian population requires a new name.

It has become apparent to careful observers that the Subalpine Warbler *Sylvia cantillans* is best treated as three separate species. All three occur in Italy and can be distinguished both vocally and in the hand, and usually also in the field at least for adult males. Moreover, there is evidence of sympatric breeding by two of the taxa without evidence of mixed pairs, and all three can be separated genetically. Various aspects of this situation were described by Orlando (1939), Gargallo (1994), Shirihai *et al.* (2001) and Brambilla *et al.* (2006, 2008b, 2010). However, these findings are now examined in the wider context of a 'species group' so that steps can be taken to ensure that names are applied to each discrete population, properly anchored to their type specimens and type localities. This is complicated by the belief that type material pertaining to the name *cantillans* apparently no longer exists and the original type locality 'Italy' is insufficiently precise. Other names applied to populations of the broader species also require attention, and my research has demonstrated that one population requires naming.

Populations and nomenclature

One group within the *S. cantillans* complex differs more markedly, Moltoni's Warbler *S. subalpina*. This breeds in Mallorca, Cabrera, Corsica, Sardinia and much of northern mainland Italy, mainly in Toscana and Emilia-Romagna. It differs clearly in call (Orlando 1939, Gargallo 1994) and subtly in song (Brambilla *et al.* 2008a; pers. obs.); the underparts of spring males are pinkish, invariably different from the orange-red or deeper brick-red of males in other populations, and it has a different moult strategy related to, among other things, later spring arrival (Gargallo 1994). There is also a substantial genetic difference (Shirihai *et al.* 2001, Brambilla *et al.* 2008b). Thus, few authorities today would question the wisdom of treating Moltoni's Warbler as a separate species.

The remaining range of the species complex is broad and discontinuous. It is evident from morphological, vocal and genetic differences that two species are involved. Both breed in Italy but are hardly in contact. One occupies the bulk of central and south Italy, including Sicily, Campania and Puglia, extending north at least to Emilia Romagna and Marche, occurring over much of the Apennine slopes. A subtly different subspecies occurs in extreme north-east Italy, the Balkans, Greece, Bulgaria and east to western Turkey.

The other species is established in a small northern enclave of Italy (western Liguria and Piemonte), where it is scarce if not rare (N. Baccetti *in litt.* 2013). This is also the common form in southern France and Iberia, and its range extends into north-west Africa, where it is represented by a subtly different subspecies.

These three parts of the Subalpine Warbler complex, on the evidence summarised below (for which extensive details will be published elsewhere; Svensson in press), deserve recognition as separate species.

I have dealt with the characters of Moltoni's Warbler above. The two remaining species, Western *S. inornata* and Eastern Subalpine Warbler *S. cantillans*, differ as follows. Genetically, there is a 3.7% difference in the mitochondrial cytochrome *b* gene (Brambilla *et al.* 2008b), which in the genus *Sylvia* is a level typical of different species. All post-juveniles and many juveniles differ in tail pattern, and furthermore *cantillans* shows stronger contrast between the rufous-red throat / breast and the more whitish lower flanks and belly (male Western is more uniformly reddish below). The white submoustachial stripe in males is on average broader and more prominent in Eastern Subalpine, narrower in Western (with only slight overlap). Eastern Subalpine averages slightly larger than Western. Vocal differences are slight; the call of Eastern is fuller and more compound, sometimes disyllabic, in Western invariably monosyllabic and drier. Slight differences in song appear to exist, but require more study before they can be evaluated.

The effect of this requires re-examination and clarification of all populations across the northern Mediterranean from Iberia to western Turkey, and those of north-west Africa. The result is a recommendation that three species be recognised as follows:

Western Subalpine Warbler *Sylvia inornata* Tschusi, 1906
Sylvia inornata inornata Tschusi, 1906. North-west Africa.
Sylvia inornata subsp. (Franco-Iberian subspecies, see below). Iberia, southern France, extreme north-west Italy.

Eastern Subalpine Warbler *Sylvia cantillans* (Pallas, 1764)
Sylvia cantillans cantillans (Pallas, 1764). Central and south Italy except Sardinia (for application of this name to this population, see below).
Sylvia cantillans albistriata (C. L. Brehm, 1855). Trieste, Balkans, Greece, Bulgaria, western Turkey.

Moltoni's Warbler *Sylvia subalpina* Temminck, 1820
Monotypic. Mallorca, Cabrera, Corsica, Sardinia, north mainland Italy.

Nomenclatural actions

***Fixing the type locality of nominate* cantillans.**—In Pallas' text in Vroeg's Catalogue (1764), on p. 4 under no. 177, male and female '*Motacilla* (*cantillans*)' are described. The male is stated to have the underparts terracotta-coloured ('subtus testacea') and a little further on rufous ('subtus rufa') with the addition that the belly is white ('abdomine albo'). This description matches the birds breeding in central and south Italy. On p. 18 the type locality is given as 'Italy' ('Uit Italie'). This locality for the name *cantillans* combined with loss of its two type specimens (*fide* Baccetti *et al.* 2007; pers. requests to Tring, New York, Paris, Rome, Leiden, Berlin museums), and the presence in Italy of two taxa with very similar morphology, requires that a neotype be designated to fix the name *cantillans* to one taxon.

I designate a first-summer male collected on 23 May 1906 at Ficuzza, north-west Sicily, now in the Natural History Museum, Tring, BMNH 1909.11.18.50, as a neotype for *S. c. cantillans* Pallas, 1764. It was collected by Alphonse Robert, who sent material to various museums from as far afield as Europe and Brazil. Based on its collection date this bird was almost certainly a local breeder. Males usually arrive in central and southern Italy between late March and mid April, and breeding has almost invariably started by May.

Figure 1. Neotype (BMNH 1909.11.18.50) for Eastern Subalpine Warbler *Sylvia c. cantillans*, first-summer male, Ficuzza, north-west Sicily, Italy, 23 May 1906; note fairly obvious contrast between orange-red breast and more whitish lower flanks with only slight rusty tinge—not visible is the rather broad and prominent white submoustachial stripe (Hein Van Grouw / © Natural History Museum, Tring)

Figure 2. Neotype (BMNH 1909.11.18.50) of Eastern Subalpine Warbler *Sylvia c. cantillans*, first-summer male, Ficuzza, north-west Sicily, Italy, 23 May 1906; note typical tail pattern, with long, narrow whitish wedge on inner web of penultimate rectrix, while a few central tail feathers are missing and one is growing (Lars Svensson / © Natural History Museum, Tring)

Figure 3. Holotype (BMNH 1934.1.1.249) of Western Subalpine Warbler *Sylvia inornata iberiae*, adult male, El Pardo, Madrid, Spain, 24 May 1931; note fairly uniform orange-red underparts (apart from white central belly)—not visible is the rather narrow white submoustachial stripe (Mark Adams / © Natural History Museum, Tring)

Figure 4. Holotype (BMNH 1934.1.1.249) of Western Subalpine Warbler *Sylvia inornata iberiae*; note typical tail pattern with small square white tip to penultimate rectrix (Mark Adams / © Natural History Museum, Tring)

Art. 75.3 of the *International code of zoological nomenclature* (ICZN 1999) requires that any neotype is 'consistent with what is known of the former name-bearing type' and is 'as nearly as practicable from the original type locality'. In Pallas' (1764) original description, the male is described as being rufous or terracotta-coloured below, which fits two of the three species within the complex, but excludes Moltoni's Warbler, in which the male is pinkish below. Between the two other species, both of which have rufous underparts in males, mention of a white belly supports the interpretation that the birds breeding in central and south Italy are meant. Furthermore, birds similar to those breeding in Sicily are common and widespread over much of central and south Italy, as far north as the northern Apennines, whereas the other Italian taxon is rare and restricted to Liguria and Piemonte near the French border. It is therefore far more probable that it was the former taxon that Pallas described. Only one species in the complex breeds in Sicily, making this type locality unambiguous.

Birds breeding in central and south Italy differ from those in extreme north-west Italy (and in southern France and Iberia) in that males in breeding plumage display more contrast between the rufous or orange-red throat / breast and paler, more whitish rear flanks and belly. Males of the Franco-Iberian population are more uniform rufous-red below, contrasting less with the only moderately paler orange belly. In central and south Italy, adults and many first-years have a narrow white wedge on the inner web of the penultimate rectrix, whereas the Franco-Iberian population has a small square white tip to this feather, not a narrow wedge. The neotype displays both characters (Figs. 1–2), although because it is a first-summer male, the tail pattern is still immature and therefore less obvious. Morphological differences between the three groups will be treated in detail elsewhere (Svensson in press).

Description.—The neotype has a medium pale lead-grey head, nape and mantle, narrow reddish orbital ring, prominent white submoustachial stripe, uniform orange-red throat and breast, but considerably paler orange, more whitish lower flanks and belly (Fig. 2). Wings brown tinged greyish, with quite abraded tips and fringes to remiges, the rectrices being dark grey with large white portions on the outermost feather and a diffuse, whitish, long narrow wedge on the inner web of the penultimate feather. The pointed bill has a paler base. Legs pale, now dark straw-coloured. Wing length (max.) 63 mm and tail length 54 mm.

Naming the Franco-Iberian population.—From the above it follows that once the name *cantillans* is fixed to Eastern Subalpine Warbler, the oldest available valid name for any population of Western Subalpine Warbler is *inornata*, Tschusi, 1906, introduced for the North African population (type locality 'northern Tunisia'). Because the diagnosably distinct population breeding in Iberia, southern France and north-western Italy has not been named, following fixation of the name *cantillans* to the population elsewhere in Italy, I propose:

Sylvia inornata iberiae subsp. nov.

Holotype.—Adult male, BMNH 1934.1.1.249, collected by C. B. Ticehurst (orig. coll. no. 52: 22), at El Pardo, Madrid, Spain, on 24 May 1931. On the reverse of one label is written in pencil, presumably by Ticehurst, 'Breeding by river'. It is thus certain that the type was a local breeder.

Description.—Adult male has orange-red underparts, only subtly paler on belly and lower flanks, but central belly and undertail-coverts whitish. Upperparts from crown to uppertail lead-grey, wings slightly tinged brownish. Tertials dark-centred but narrowly fringed paler brown-grey. Orbital-ring orange-red. Submoustachial stripe pure white,

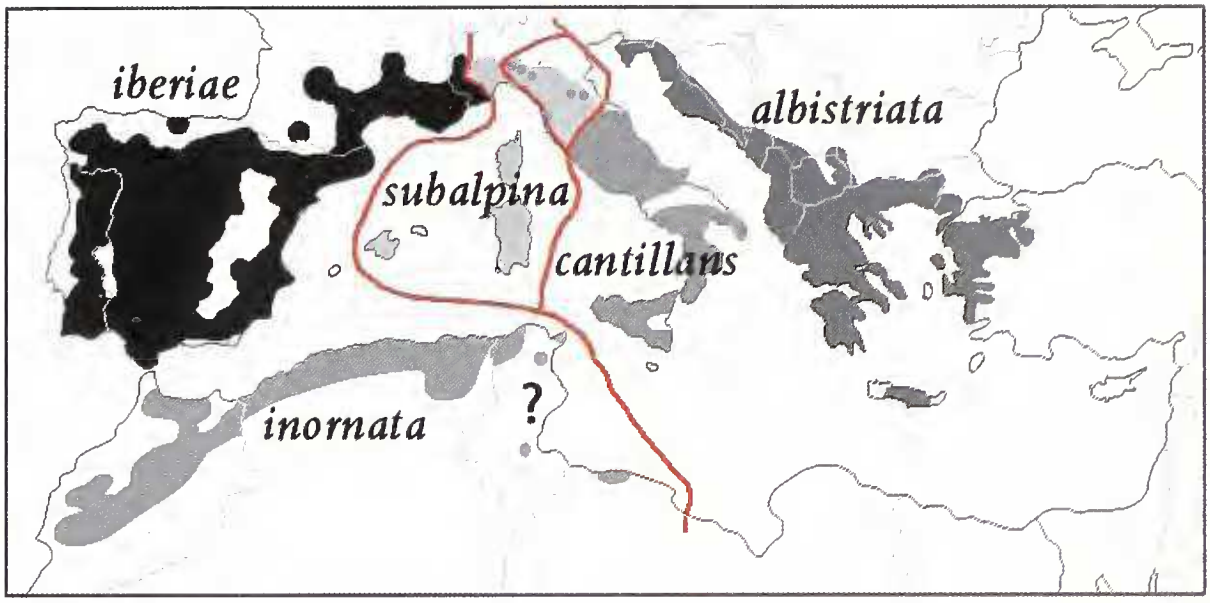

Figure 5. Map showing ranges of all five taxa and borders between the three species. Note that the circled area in northern Italy is a zone of overlap between *subalpina* and *cantillans*, with dark grey dots indicating localities of confirmed sympatry. The question mark in Tunisia denotes mainly lack of information concerning status within wide gaps between known breeding areas. Based mainly on Shirihai *et al.* (2001) and Brambilla *et al.* (2006), with input by M. Ullman (pers. comm. 2013).

rather narrow. Outer rectrices dark grey with large white outer portion (on average less extensive than in Eastern Subalpine Warbler), penultimate tail feathers squarely tipped white. Bill fine, culmen and tip dark, cutting edge and base of mandible paler (now pale yellowish brown). Wing (max.) 59.5 mm, tail 54.0 mm, bill (to skull) 12.6 mm, tarsus 19.5 mm. Figs. 3–4 show the type in ventral view and its tail pattern.

Female differs in being mainly whitish or cream-white below, with faint pinkish-buff or pale cinnamon-buff tinge in some. Upperparts brown-grey, slightly paler than male, lacking all or most lead-grey hues. Lores often slightly paler than forehead and crown (concolorous in male). Wings tinged slightly more brownish than in male. Either lacks white submoustachial stripe or has only faint suggestion of it. Female shares brick-red orbital ring, only less bright, but nearly always also has narrow off-white eye-ring outside orbital ring. Tail pattern as male.

Diagnosis.—Both sexes differ from nominate *inornata* in being less yellow-tinged above and below, which difference is particularly obvious in series. There is a slight tendency for breeders in southernmost Spain to be slightly more yellowish than typical birds from central Spain and further north (Shirihai *et al.* 2001), but differences are slight with much overlap, and it seems best to draw the line between *iberiae* and *inornata* through the Strait of Gibraltar, as in all major handbooks. In size and structure *iberiae* and *inornata* are practically alike, but *iberiae* is on average very slightly smaller, although differences are miniscule and unhelpful for identification. By comparing 57 specimens of *inornata* with 58 *iberiae* in various collections it is evident that at least 75% differ diagnosably, probably many more.

Etymology.—The name *iberiae*, a genitive singular, means 'of Iberia' and indicates the main range of this taxon, the Iberian Peninsula.

The scientific name of Moltoni's Warbler

Moltoni's Warbler has been known either as *subalpina* and *moltonii*. The latter name, given by Orlando in 1937, has been in wide use, but as Baccetti *et al.* (2007) pointed out *subalpina* is valid and has priority. The Temminck type specimen of *subalpina* is reputedly long since lost due to insect damage (*fide* Baccetti *et al.* 2007), and requests to the Leiden and Paris museums have not changed that.

The type was described (Temminck 1820b) as a female, but based on Temminck's plate (see below), its lead-grey upperparts and prominent pink underparts, I conclude that the specimen was a male. According to Temminck, the type had 'a beautiful vinaceous colour' below. The adjective used (Fr. 'vineuse', vinaceous) is the same that Ridgway (1912) used for such a pink, and because males of all other Subalpine Warbler populations possess more orange-brown or reddish underparts it is probable that Temminck was struck by the unusual and attractive pink of male Moltoni's Warbler when he described *subalpina*. In his Pl. 6, no. 2, a painting of *subalpina* shows an adult bird with lead-grey crown and mantle typical of males, and pink, not orange-red, underparts. Temminck specifically states that the bird in the said plate was the only known specimen, sent to Temminck by Bonelli, making it the holotype by monotypy. There can be no doubt that Temminck's plate refers to this taxon, making *subalpina* the oldest available valid name, with priority over *moltonii* Orlando, 1937.

That the type locality 'near Turin' could fit not only Moltoni's Warbler but theoretically also Eastern Subalpine Warbler is of subordinate importance given the existence of Temminck's plate and Temminck's (1820b) statement that the plate depicted the unique specimen. Furthermore, it clearly shows the characteristic tail pattern of Moltoni's Warbler, with the square white tips to the penultimate feathers excluding Eastern Subalpine Warbler.

Temminck published information on his *Sylvia subalpina* twice in 1820. First (Temminck 1820a) was the plate in August 1820, along with a wrapper giving the scientific name of this and other taxa depicted in the six plates comprising this part of the *Planches coloriées* of Temminck & Laugier, wherein Baron Laugier took no part in naming taxa (*cf.* Dickinson 2001). Second was a description in the *Manuel d'ornithologie* (Temminck 1820b), published in October 1820 (see item 3681 in the *Bibliographie de la France*, issue no. 43, of 21 October 1820).

Interestingly, Temminck (1824) depicted a perfectly identifiable Eastern Subalpine Warbler, presumably subspecies *albistriata*, in Pl. 251. The contrast between the dark rufous-red breast and white belly is striking. In the text the bird is labelled as the male *Sylvia subalpina*. The painting was based on a bird collected by a Mr Heckel in Silesia, Poland, near the German border (if correct, obviously a spring overshoot since the usual breeding range today runs south of the Alps east to south Bulgaria and western Turkey, and is not thought to have been substantially different then). However, Pl. 251 appeared four years later than Pl. 6 and does not depict the type of *subalpina*, which name must be linked to the bird on Pl. 6[1].

[1] It is interesting that the subject of Pl. 251 is mentioned in this text; evidence exists that the texts eventually published for livraisons 1–10 (all of the first 20 originally lacked text) appeared no later than June 1823 (*cf.* Dickinson 2001). Thus this text must be a reissue and the original text must have been cancelled (E. C. Dickinson *in litt.* 2013).

Ensuing taxonomy with synonymy

The effects of the above decisions in terms of synonymy are as follows. Fig. 5 maps species limits.

Western Subalpine Warbler *Sylvia inornata* Tschusi, 1906
Sylvia inornata inornata Tschusi, 1906. Type locality: northern Tunisia.
Sylvia inornata iberiae subsp. nov. Type locality: Madrid.

Eastern Subalpine Warbler *Sylvia cantillans* (Pallas, 1764)
Sylvia cantillans cantillans (Pallas, 1764). Type locality: Italy, but here restricted to Sicily.
Synonym: *leucopogon* Meyer, 1822. Type locality: Sicily.
Sylvia cantillans albistriata (C. L. Brehm, 1855) Type locality: Egypt (in winter).
Synonym: *orientalis* (A. E. Brehm, 1866). Type locality: Greece. *Nomen nudum.*

Moltoni's Warbler *Sylvia subalpina* Temminck, 1820 Type locality: near Turin.
Synonym: *moltonii* Orlando, 1937. Type locality: Sardinia (and Corsica?).

Other names have been associated with the Subalpine Warbler. Both *rhodogastra* (Rafinesque Schmaltz, 1810) and *turdella* (Rafinesque Schmaltz, 1810), described from Sicily, have been applied to this species in the broad sense, but according to Baccetti *et al.* (2007), neither of these names came into use. Furthermore, the first of these is more likely to refer to Spectacled Warbler *S. conspicillata* (Temminck 1820b) (see Trischitta 1922), and the second is apparently based on a female and probably impossible to definitively link to one taxon in the complex. Both names are best treated as *nomina dubia*. It may be desirable in the future to clarify the application of these names in order to stabilise the nomenclature of the genus *Sylvia*. However, this lies outside the scope of this paper.

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